

AMENDMENTS TO THE DRAWINGS

The attached "Replacement Sheets" of drawings include changes to Figures 1, 3, 4, 6 and 9. The attached "Replacement Sheets," which include Figures 1-52, replace the original sheets including Figures 1-52.

Figure 1 – Please change reference numeral 1 to C; 2 to R; 3 to D; and, 4 to E.

Figure 3 - Please change reference numeral 2 to R.

Figure 4 - Please change reference numeral 3 to D.

Figure 6 - Please change reference numeral 1 to C1; 2 to R1; 3a to D1; 3b to D2; 4a to E1; and 4b to E2.

Figure 9 - Please removal lower leader line for reference numeral 13a which identifies a large diameter joining portion.

Attachment: Replacement Sheets

REMARKS

Claims 7-11 and 43-46 remain pending in the present application. Claims 1-6 and 12-42 have been cancelled. Claims 7-10 have been amended. Claims 43-46 are new. Basis for the amendments and new claims can be found throughout the specification, claims and drawings originally filed.

DRAWINGS

The drawings are objected to because different embodiments should use different reference element numbers. Applicants have amended the drawings to remove duplicate reference numerals and have amended the specification accordingly.

Regarding Figure 9, the leader line for element 13a has been corrected.

Regarding Figure 10, it is a view in direction X-X of Figure 9 which is a view of only the tubes. Applicants believe Figure 10 is correct as filed. Withdrawal of the objection is respectfully requested.

SPECIFICATION

The abstract of the disclosure is objected to because of its length which does not meet the requirements as stated above. Enclosed is an amended abstract. Withdrawal of the objection is respectfully requested.

The disclosure is objected to because it is replete with minor grammatical errors too numerous to mention. The specification has been amended to overcome the rejection. Withdrawal of the objection is respectfully requested.

REJECTION UNDER 35 U.S.C. § 102

Claims 7, 8 and 10 are rejected under 35 U.S.C. § 102(b) as being anticipated by Cowan (U.S. Pat. No. 2,143,843). Applicants respectfully traverse this rejection.

Claim 7 has been amended to define that two or more of the end portions of the inner and outer pipe and the joint member define plastic deforming means for joining the joint member to the inner and outer pipes.

Element 27 in Cowan is steam packing which is separate from outer pipe 11 and is thus not defined by outer pipe 11. Element 25 in Cowan is a threaded connection and not plastically deformable means as is now defined in amended Claim 7.

Thus, Applicants believe Claim 7, as amended, patentably distinguishes over the art of record. Likewise, Claims 8 and 10, which depend from Claim 7, are also believed to patentably distinguish over the art of record. Reconsideration of the rejection is respectfully requested.

Regarding Claims 8 and 9, they have been amended to define expanding the end of the inner pipe.

REJECTION UNDER 35 U.S.C. § 103

Claim 11 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Cowan as applied to Claims 7, 8 and 10 above, and further in view of Inaba (U.S. Pat. No. 4,732,414). Claim 11 depends from Claim 7. As discussed above, Claim 7 has been amended and is now believed to patentably distinguish over the art of record. Thus, Claim 11 is also believed to patentably distinguish over the art of record.

NEW CLAIMS

New Claims 43-46 are believed to read on the elected species.

Claim 43 is a new independent claim. The feature of the present invention as described in new Claim 43 resides in that the inner pipe is joined to the step-like insertion hole of the joint member by means of drawing for expanding an end portion or by means of bead pressure-contact machining, and that the outer pipe is joined to the cylindrical male portion of the joint member by means of drawing for contracting an end of the pipe or the cylindrical female portion is joined to the outer pipe by means of drawing for contracting an end of the cylindrical female portion. Accordingly, since the inner pipe and the outer pipe are individually joined to the joint member by the plastically deforming means, it is possible to remove the process for joining the inner pipe to the outer pipe and the cost of manufacturing the double pipe structure can be reduced.

On the other hand, Cowan discloses a joint structure of double pipes in which an inner pipe and an outer pipe are joined to joint members by means of a threaded engagement and a steam packing, but does not disclose a joint structure of double pipes as mentioned above in the present invention.

Further, Inabe also does not disclose a joint structure of double pipes by using the plastically deforming means as mentioned above.

Claims 44 and 45 depend from Claim 43.

Claim 46 is an independent claim which details the bending of a co-axial tube as shown in Figure 15. Applicants believe Figure 15 applies to all of the embodiments and thus Claim 46 reads on the elected species.

REJOINDER


Applicants respectfully request rejoinder of Claim 9.

CONCLUSION

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action and the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

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